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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,323	08/29/2001	Walter L. Moden	3089.2US (96-0734.2)	9742

24247 7590 10/15/2002

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EXAMINER

LEE, HSIEN MING

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 10/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/942,323

Applicant(s)

MODEN ET AL.

Examiner

Hsien-Ming Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-65 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 10-33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-4, 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Moden (US 5,733,800).

Moden in Figs. 2A-2B and related text expressly and inherently teaches the claimed method for applying viscous material to at least one semiconductor component, the method comprising:

- providing a viscous material pool containing viscous material, the viscous material pool shaped such that an exposed surface of the viscous material is located in a precise location and including at least one upward facing opening, the at least upward facing opening exposing at least the exposed surface of the viscous material, wherein the pool is a space (sprue) 36 containing the melted viscous adhesive material 30 (thermoset resins; col. 6, line 4) when the material 30 is heated; the pool 36 has an upward-facing opening that faces up a plunger 32; and the exposed surface of the melted viscous material 30 is located at a precise location, i.e. the bottom (primary

- runner) 38 of the pool 36 which connects with a transversely-oriented secondary runners 40 and across gates 42 into and through mold cavities 44 (Fig. 2A);
- exposing at least the exposed surface of the melted viscous material, i.e. exposing the exposed surface of the heated viscous material by pressing the plunger 32 to force the melted viscous material 30 to run through the sprue 36 (Fig.2B);
 - aligning at least one semiconductor component over the viscous material pool, i.e. aligning the die assembly 100 comprising dies 102 and attached lead frames 104 with the melted viscous material 30 (Fig.2B); and
 - wetting a specific location of the at least one semiconductor component with the viscous material, i.e. wetting the die assembly 100 comprising dies 102 and attached lead frames 104 with the melted viscous material 30 by forcing the melted viscous material 30 across the secondary runners 40 through gates 42 (Fig.2B).

Allowable Subject Matter

3. Claims 34-65 are allowed.
4. Claims 5-8, 10-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter:
6. The prior art of record, Moden (US 5,733,800), teaches the claimed method as recited in claims 1-4 and 9 as stated above, but at least neither teaches nor suggests: (1) biasing the semiconductor component downward proximate the viscous material in the viscous material pool; (2) providing one of a hydraulic biasing mechanism, pneumatic biasing mechanism, and


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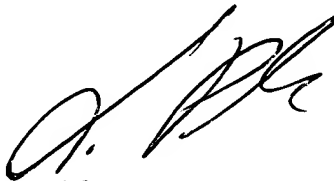
electrically powered biasing mechanism configured to place the one semiconductor component proximate the viscous material; (3) raising the viscous material pool upward proximate the semiconductor component ; (4) leveling the exposed surface of the viscous material prior to wetting a specific location of the semiconductor component; and (5) exposing the exposed surface of the viscous material, the exposed surface of the viscous material having a height that extends above the height of the at least one peripheral edge.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-Ming Lee whose telephone number is 703-305-7341. The examiner can normally be reached on M-F (9:00 ~ 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 703-308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-0142 for regular communications and 703-305-0142 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Hsien Ming Lee
October 4, 2002


LONG PHAM
PRIMARY EXAMINER